

**What is Claimed is:**

1. An interface composition or coating for ceramic fibers of ceramic matrix composites, said interface composition or coating comprising boron-aluminum-nitride.
- 5 2. The interface composition or coating of claim 1 wherein aluminum nitride (AlN) or aluminum oxynitride (AlON) is nanodispersed in boron nitride.
3. A ceramic matrix composite comprising ceramic fibers coated with boron-aluminum nitride.
- 10 4. The ceramic matrix composite of claim 3 wherein the ceramic fibers are coated with aluminum nitride nanodispersed in boron nitride.
5. A method for coating a ceramic carbide fiber with boron-aluminum-nitride  
15 comprising
  - (a) extracting metal from the ceramic carbide fiber to form a thin uniform carbon layer on the ceramic carbide fiber; and
  - (b) transforming the carbon layer on the ceramic carbide fiber to boron-aluminum-nitride by reacting the carbon layer with boron and  
20 aluminum salts in the presence of ammonia and heat so that the carbon layer is consumed and the carbide fiber is coated with boron-aluminum-nitride.